

WESTERN DROUGHT STATUS UPDATE

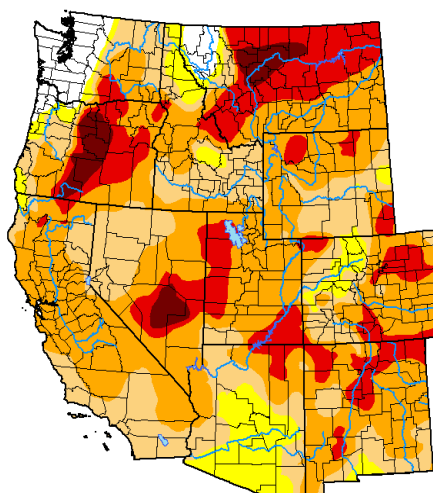
JANUARY 2022

A Wet December Has Improved Conditions in the West But Long-Term Drought Continues

- Compared to one year ago, the area in drought in the western U.S. rose from 77% to 88%, while the area in Exceptional Drought (D4) dropped from 22% to 3%.
- December storms brought more than 200% of normal precipitation to a large area of California and Nevada and in the Rockies west of the Continental Divide.
- These storms improved the drought status by 1–2 categories, according to the U.S. Drought Monitor, throughout much of the region.
- However, significant precipitation deficits still exist for almost the entire West over the last two years and continued precipitation is needed over the coming months.

U.S. Drought Monitor Western U.S.

January 11, 2022
(Released Thursday, Jan. 13, 2022)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.81	96.19	88.03	64.04	20.44	3.14
Last Week 01-04-2022	3.68	96.32	89.29	64.90	23.85	3.94
3 Months Ago 10-12-2021	2.57	97.43	90.09	75.39	51.53	17.77
Start of Calendar Year 01-04-2022	3.68	96.32	89.29	64.90	23.85	3.94
Start of Water Year 09-30-2021	2.21	97.79	89.60	75.38	52.48	18.40
One Year Ago 01-15-2021	9.74	90.26	77.81	64.84	46.84	22.14

Intensity

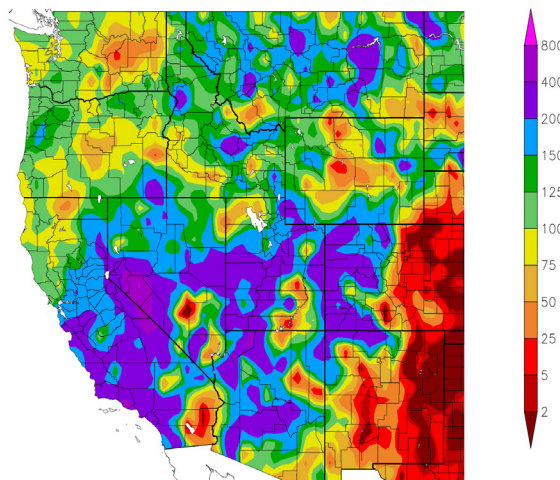
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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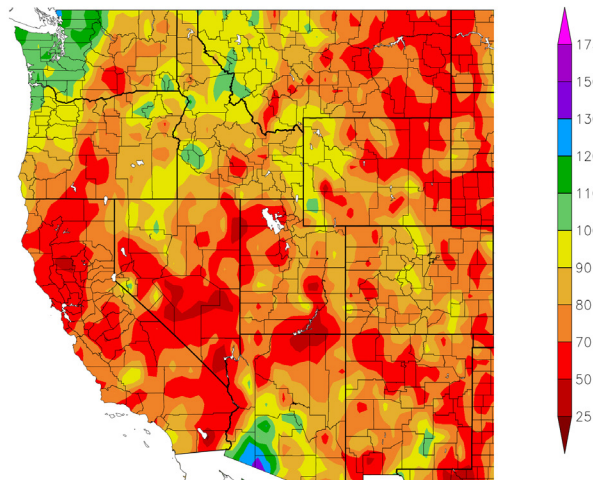
▲ Fig 1. Jan 11, 2022 U.S. Drought Monitor. Source: National Drought Mitigation Center

Percent of Normal Precipitation (%)
12/1/2021 – 12/31/2021



▲ Fig 2. Percent of normal precipitation in December 2021 for the western U.S. Source: High Plains Regional Climate Center

Percent of Normal Precipitation (%)
1/18/2020 – 1/17/2022



▲ Fig 3. Percent of normal precipitation in the last two years (as of Jan. 18, 2020) for the western U.S. Source: High Plains Regional Climate Center

STREAMFLOW AND RESERVOIR LEVELS ARE BELOW OR MUCH BELOW NORMAL

As of January 18, 2022, most reservoir levels in the West are below or much below normal, in many cases from long-term drought. Lake Powell is at 27% capacity while Lake Mead is at 34% of capacity. In California, Lake Shasta is at 34% of capacity and Lake Oroville is at 44% of capacity.

Snowpack is key to boosting reservoir levels. The early returns from the 2021-22 snow season are promising. After a slow start to the snow season, a series of winter storms impacted the western U.S. from mid-December through early January. These storms led to a substantial reduction in snow drought compared to mid-December 2021. Combined snow plus reservoir levels are now even near- or above-normal in the Southern Sierra for this time of year. The small areas that remain in snow drought are primarily in the eastern Rocky Mountains. However, below-normal precipitation and snowfall has taken hold across much of the western coastal states and is expected to continue through the end of January. Continued dry conditions into February could lead to a recurrence of snow drought.

CURRENT RESERVOIR LEVELS

Lake Mead (AZ/NV):

34%
of capacity

Lake Powell (AZ/UT):

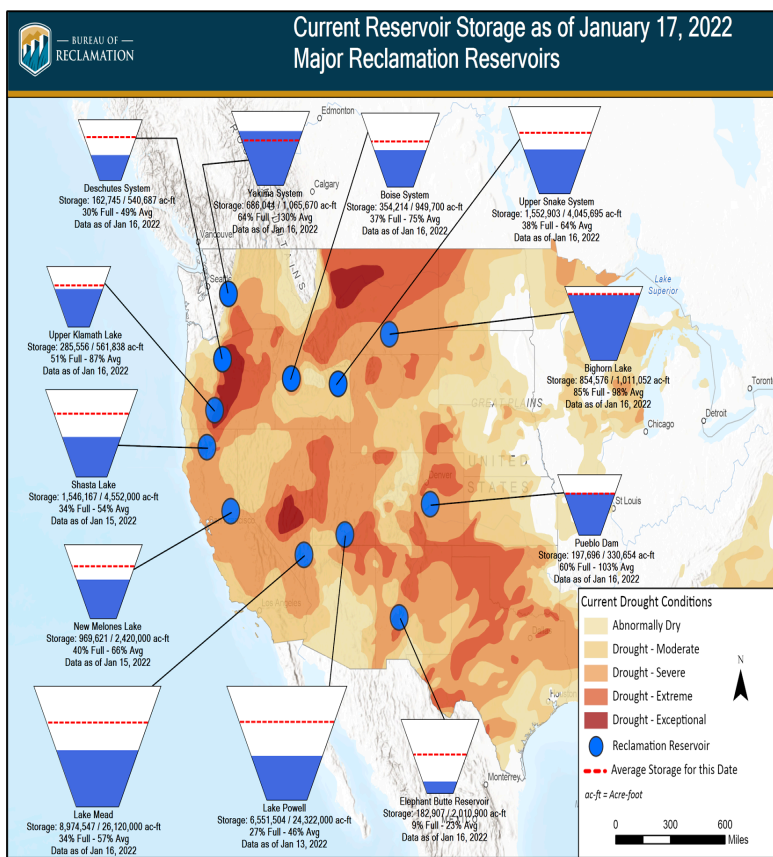
27%
of capacity

Lake Shasta (CA):

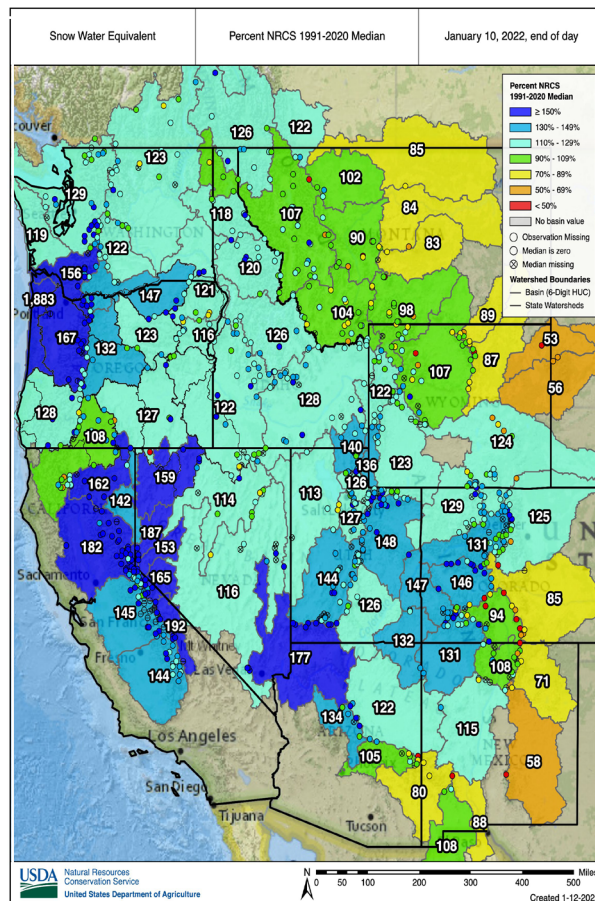
34%
of capacity

Lake Oroville (CA):

44%
of capacity



▲ **Fig 4.** Current storage for major Bureau of Reclamation reservoirs as of January 17, 2022 showing level of fill in reservoirs, ratio of the volume of water currently in the reservoir compared to the volume of water in the reservoir when it is full, and the percent full. Source: Bureau of Reclamation

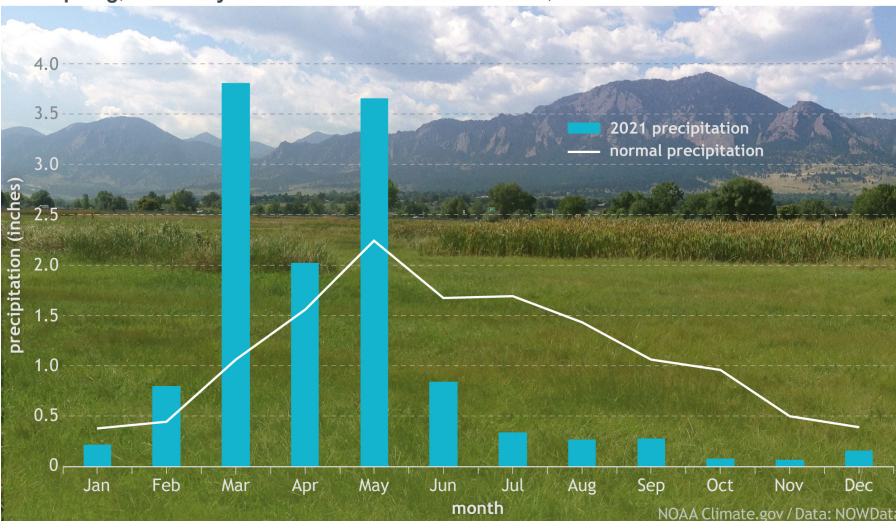


▲ **Fig 5.** Snow Telemetry (SNOTEL) snow water equivalent (SWE) values for watersheds in the western U.S. as a percent of the USDA Natural Resources Conservation Service (NRCS) 1991-2020 median. This map is valid as of January 10, 2022. Source: NRCS

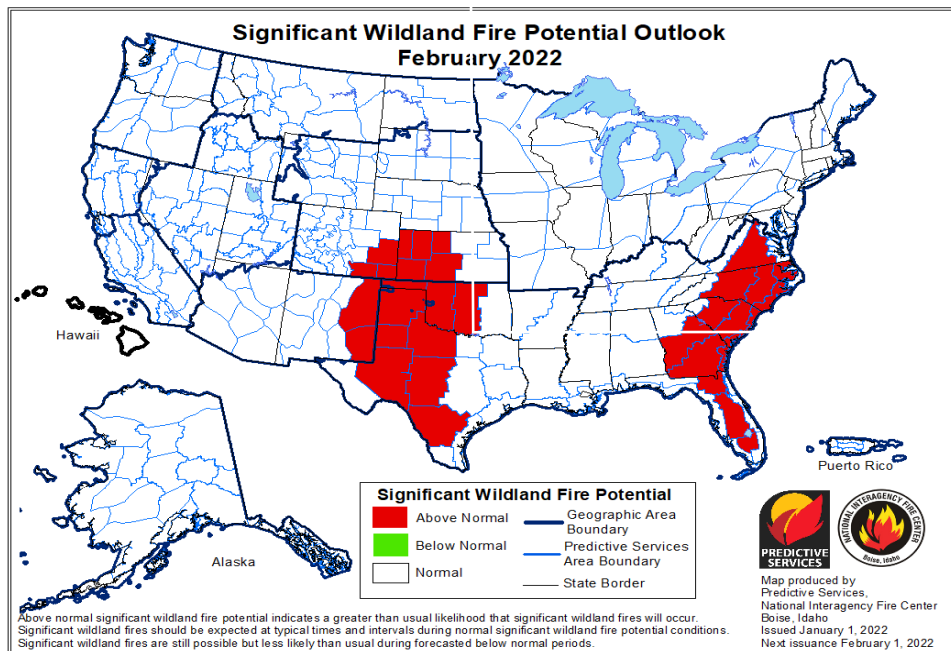
2021 ENDS WITH A DEVASTATING WILDFIRE IN COLORADO, RISK CONTINUES ON THE SOUTHERN PLAINS

- Fire year in 2021 was defined by large fires in the Northwest and Northern California not only causing destruction but sending smoke streaming throughout parts of the United States and Canada, and with it, unhealthy air quality.
- The year ended with a devastating, atypical winter fire in Colorado (Figure 6). On December 30, 2021, the Marshall Fire ripped through neighborhoods in Boulder County, CO. Spread by high winds and fueled by drought, the wildfire destroyed more than 1,000 homes. Wet, then dry extremes, set the stage for this disaster in the months leading up to this wildfire.
- Above normal significant fire potential continues in parts of the Central and Southern Plains due to drought and much above normal temperatures (Figures 7 and 8).

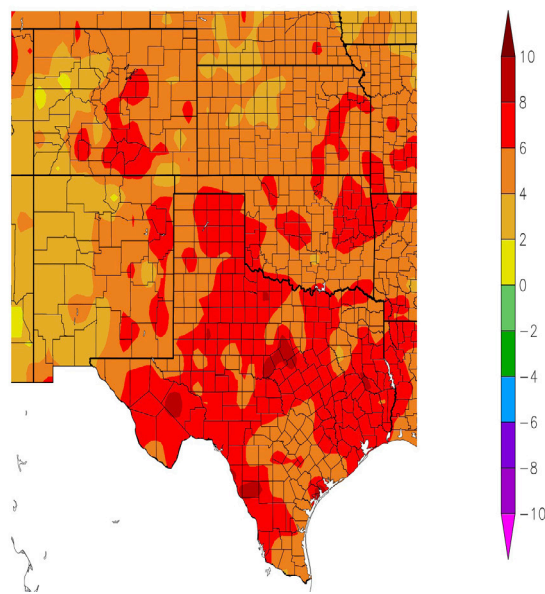
Wet spring, bone-dry summer and fall near Boulder, CO



▲ **Fig 6.** Top: Monthly precipitation in 2021 at the Boulder, CO, weather station (blue bars) compared to average (white line). Last spring was exceptionally wet, and summer and fall were exceptionally dry. Background photo shows the foothills area in September 2014. NOAA Climate.gov image, based on data from NWS Denver-Boulder Forecast Office and photo by Flickr user MikeB, used under a Creative Commons license. Bottom: Marshall Fire burns in Boulder County. Source: Boulder County, CO



▲ **Fig 7.** Significant Wildland Fire Potential Outlook for February 2022. Source: National Interagency Fire Center



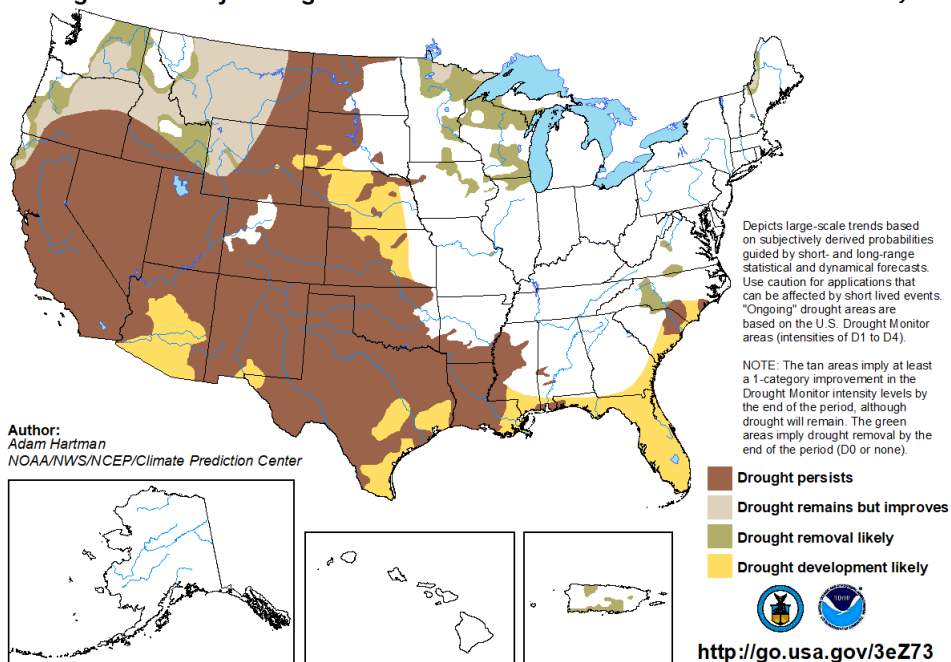
▲ **Fig 8.** Departure from normal temperatures for the CO, NM, and the Southern Plains for November 20, 2021 to January 18, 2022. Source: High Plain Regional Climate Center

OUTLOOK SHOWS DROUGHT CONDITIONS CONTINUING

- NOAA's National Weather Service Climate Prediction Center sees drought persisting throughout most of the West and Plains through the end of April.
- Drought is expected to develop in some of the few areas in the Southwest and Plains that are currently drought-free.
- Drought is expected to improve, but mostly remain, in the Pacific Northwest and Northern Rockies.

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for January 20 - April 30, 2022
Released January 20



▲ Fig 9. Seasonal Drought Outlook from January 20 through April 30, 2022. Source: NWS CPC

NIDIS AND PARTNERS ARE RESPONDING TO THE WESTERN DROUGHT

Throughout the 2020-22 drought, NIDIS has been working with federal, state, and tribal partners, plus organizations including the the Western States Water Council and the American Water Works Association, to ensure that stakeholders have the drought information they need. NIDIS' efforts include posting the latest drought information on the new drought.gov and social media, regular drought status updates, webinars, and regional coordination meetings. Additionally, NIDIS has a number of ongoing initiatives to address current drought and future droughts and related impacts. For example, the [NIDIS Drought and Wildland Fire Nexus \(NDAWN\) Strategy](#) defines the needs and challenges of fire managers to effectively utilize drought information and to establish a robust drought and wildland fire decision-support information network. All of these efforts involve bringing together the most knowledgeable national and regional drought experts and helping to disseminate their knowledge in easy to understand language. On drought.gov, NIDIS has created interactive maps, tools, and other resources that don't exist anywhere else, building on data from a vast network of partners to provide easily accessible drought information all in one place. These outreach efforts also share over a decade's worth of NIDIS-funded research and tools on preparing for, predicting, monitoring, and assessing drought.

NIDIS will continue to provide useful and accurate information for as long as the current drought persists. Furthermore, NIDIS is already thinking ahead to the next drought by developing drought impact assessments, integrating lessons learned, and filling gaps and needs. Our ongoing activities and coordination efforts aim to build resilience and provide value to stakeholders across the region who are trying to manage through these exceptional drought conditions.

